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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WALTERS JR, ROBERT S

ART UNIT

PAPER NUMBER

1792

NOTIFICATION DATE

DELIVERY MODE

12/28/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction27049@oliff.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/582,867	<b>Applicant(s)</b> BURCKHARDT, URS	
	<b>Examiner</b> ROBERT S. WALTERS JR	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) 20-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Application***

Claims 1-16 and 20-32 are pending. Claims 20-32 are withdrawn. Claims 1-16 are presented for examination.

### ***Election/Restrictions***

Applicant's election with traverse of claims 1-16 is acknowledged. The traversal is on the ground(s) that Okuhira fails to disclose the special technical feature. This is not found persuasive because while it is true Okuhira may fail to specifically teach the common technical feature, Pareinello et al. (U.S. Pat. No. 5134234) teaches the common technical feature of the aldiminoalkylsilane (see Formula Ia and column 2, lines 17-39). Therefore, the claims can not be said to share a special technical feature.

The requirement is still deemed proper and is therefore made FINAL.

The applicant is reminded that upon allowance of independent claim 1, any non-elected claims, dependent on claim 1, may be subject to rejoinder since they will contain all of the limitations of an allowed claim.

### ***Response to Arguments***

Applicant's arguments, see amendment, filed 9/9/2009, with respect to the rejection(s) of claim(s) 1-13 have been fully considered and are persuasive. Therefore, the rejection has been

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withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Okuhira and Parrinello et al.

Applicant's arguments, with regards to claims 14-16 filed 9/9/2009 have been fully considered but they are not persuasive. The applicant argues that the examiner has not provided a technical reason why one of ordinary skill in the art would have modified Okuhira to be completely depleted of water. However, the examiner maintains it would have been obvious to remove water from the reaction mixture to completely deplete it of water. One would have been motivated to make this modification to optimize the synthesis of the desired aldimine to obtain a high yield of the desired compound. The reaction taking place is an equilibrium reaction and water is produced as one of the products of the reaction. Therefore, the removal of water from the reaction mixture would shift the equilibrium to produce more products thereby driving the reaction to completion.

The applicant further argues that there is no motivation to modify Okuhira with Merger. However, the examiner maintains it would have been obvious to make this modification, as Merger teaches that compositions incorporating the polyaldimines have increased storage stability (column 9, lines 12-14) and an acceleration in the curing reaction (column 1, lines 33-35).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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1. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites an aldiminoalkylsilane prepared from the reaction of at least one of an aminoalkylsilane and an aldehyde. However, this claim is indefinite as it is impossible to ascertain the metes and bounds of the scope of the claim, as any other reactants can be included, and the aldiminoalkylsilane does not necessarily have to be formed from the reaction the ketone of the claimed aldehyde and the amine of the aminoalkylsilane. For examination purposes, the claim has been construed to be an aldiminoalkylsilane having the formulas as shown in claim 13, which is prepared from the reaction of the aminoalkylsilane and an aldehyde.

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, 9 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Parrinello et al. (U.S. Pat. No. 5134234).

Regarding claims 1, 3, 4, 9 and 13, Parrinello teaches an aldiminoalkylsilane (Formula 1a), where R<sub>2</sub> can be hydrogen (abstract), R<sub>3</sub> and R<sub>4</sub> can be alkylenes from 1 to 12 carbon atoms (column 2, lines 61-62), p can be 0 (abstract), R<sub>6</sub> can be an alkyl group from 1 to 12 carbon atoms (column 3, lines 9-11), and R<sub>1</sub> can be of Formula II, where R<sub>10</sub> is an ether group where R<sub>11</sub>

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is from 1 to 12 carbon atoms, and R<sub>8</sub> and R<sub>9</sub> can be an alkyl group from 1 to 6 carbon atoms (column 2, lines 13-39), which would have the same structure as one prepared from the reactants as presently claimed. Parrinello fails to teach preparing the aldiminoalkylsilane from the reactants as claimed. However, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this case the products appear to be identical, therefore, the claims are anticipated by or, in the alternative, obvious over Parrinello.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-5, 9 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuhira et al. (EP 0985693).

I. Regarding claims 1-5, 9 and 13, Okuhira teaches aldiminoalkylsilanes (see Formula 13, page 13) prepared from the reaction of 3-aminopropyltrimethoxysilane (see Formula 5, page 10), or 3-aminopropyldimethoxymethylsilane (see Formula 9, page 10) with an aldehyde similar to that of Formula II (see Formula 2, page 8), wherein both  $Y^1$  and  $Y^2$  can be methyl (see page 8, lines 1-16) and  $Y^3$  is an alkyl of 1 to 6 carbon atoms. Okuhira fails to teach an aldiminoalkylsilane where  $Y^3$  is an alkyl chain of at least 10 carbon atoms. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Okuhira's aldiminoalkylsilanes by utilizing alkyl chains of at least 10 carbon atoms. One would have been motivated to make this modification as the simple substitution of an alkyl chain of 10 carbon atoms would be expected to provide an aldiminoalkylsilane having the same or nearly identical properties to an aldiminoalkylsilane of 6 carbon atoms, absent evidence to the contrary. Further, one could have made this substitution with a reasonable expectation of success (as the substitution would not have been expected to alter the reactivity), and the predictable result of providing an aldiminoalkylsilane bearing the same properties.

II. Regarding claims 14 and 15, Okuhira teaches all the limitations of claim 1 (see above), including reacting an aminoalkylsilane of formula I with an aldehyde of formula II (see above), wherein the aldehyde is employed stoichiometrically to the amine groups of the aminoalkylsilane

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(0078). Okuhira further teaches a reaction of an aliphatic amine with a ketone to provide a ketoimine, wherein the water formed in the reaction is substantially removed from the reaction mixture azeotropically (0137). Okuhira fails to explicitly teach an embodiment where the water is removed completely from the reaction mixture of an aminoalkylsilane of formula I and an aldehyde of formula II. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Okuhira's process by substantially completely removing water generated in the reaction mixture. One would have been motivated to make this modification as this is a reaction which is an equilibrium reaction and water is produced as one of the products of the reaction. Therefore, the removal of water from the reaction mixture, would shift the equilibrium to produce more products thereby driving the reaction to completion.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okuhira in view of Merger et al. (U.S. Pat. No. 4853454).

Regarding claim 16, Okuhira teaches all the limitations of claim 14, but fails to teach the aminoalkylsilane being present in a mixture of at least one polyamine having primary aliphatic amino groups and the aldehyde groups employed stoichiometrically or in excess of the entirety of the primary amino groups, thereby producing a mixture after reaction. However, Merger teaches that aldehydes of formula II (see top of column 9) can be utilized in reactions with polyamines having primary aliphatic amino groups (see Table 1, columns 15 and 16) to prepare polyaldimines for use in moisture curable coating compositions. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Okuhira's



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method by adding polyamines having primary aliphatic amino groups and adding excess aldehyde to react with these additional polyamines to provide a mixture of aldiminoalkylsilane and polyaldimines. One would have been motivated to make this modification as Merger teaches that compositions incorporating the polyaldimines have increased storage stability (column 9, lines 12-14) and an acceleration in the curing reaction (column 1, lines 33-35).

### ***Allowable Subject Matter***

Claims 6-8 and 10-12 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and also correcting the indefiniteness of the independent claim.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or suggest aldiminoalkylsilanes that would have the structure of the aldiminoalkylsilanes of claims 6 and 7, which would have ether and ester groups incorporated into the aldiminoalkylsilanes. Furthermore, a thorough search of the prior art failed to teach or suggest aldiminoalkylsilanes having this structure. Therefore, claims 6 and 7 are not obvious over the prior art of record. Claims 8 and 10-12 depend from claim 7 and are therefore also patentable over the prior art of record.

### ***Conclusion***

Claims 1-16 and 20-32 are pending.

Claims 20-32 are withdrawn.

Claims 1-16 are rejected.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT S. WALTERS JR whose telephone number is (571)270-5351. The examiner can normally be reached on Monday-Friday, 8:00am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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December 17, 2009  
Examiner, Art Unit 1792